

**Area-Wide Soil Contamination
Work-Group 2, Protective Measures
May 6, 2002, Bellevue, WA
Draft Meeting Summary**

These notes will provide a summary of key discussion points and action items but are not intended to be minutes of the meeting or to completely describe all discussions. In some cases, participants submitted written comments that provided additional detail on points they raised at the meeting. Some of those details have been incorporated into this meeting summary.

Project Update

Dave Bradley provided a brief update on other project tasks. Work group members asked about coordination with other states and there were several questions surrounding the information survey being completed by the contractor team. Members noted that several states (CO, FL, TX, NJ, etc) were trying to address similar issues. It was also noted that the EPA Superfund program had listed a large area in North or South Dakota that had elevated levels of arsenic resulting from past efforts to control grasshopper infestations. Bradley noted that some of these states had been contacted as part of the information survey and that other calls were planned as part of individual tasks. It was suggested that a national meeting might be a good mechanism for exchanging information on this issue. Bradley also reported that Dr. Allan Felsot had agreed to participate on the work group and that the agencies were still trying to find a citizen group representative.

Site Categories

Kris Hendrickson provided an overview of the proposed site categories and the factors considered in selecting those categories. The three proposed categories include: (1) industrial/commercial sites; (2) other types of developed sites (e.g. residential, schools, etc.); and (3) other types of undeveloped sites. Kris explained that the two most important characteristics used to identify site categories were site use (potential for child exposures) and development status (which affects the feasibility of certain types of remedial options). A wide range of opinions were expressed in the ensuing discussions.

- Criteria for Identifying Site Categories: One of the questions posed to the work group was “Is it reasonable to use land use (e.g. potential for child exposure) and development status as the main criteria for identifying site categories? If not, what changes would you recommend?” There appeared to be general agreement that land use and development status were important criteria. However, several members expressed the opinion that the proposed categories were too broad (see below) and suggested that other factors should be considered when selecting site categories. Factors suggested by one or more members include depth of contamination, age (e.g. distinguishing between grade school and high school children), types of activities (e.g. play areas for small children vs baseball or soccer fields), frequency of exposure (e.g. play areas in backyards vs public parks located outside of residential areas), degree of development (e.g. paved areas vs unpaved) and commercial uses (indoor workers vs outdoor workers). Time, information

and energy levels precluded meaningful discussion on how these additional factors could be used to create additional categories or subcategories. However, these additional factors have been considered as part of identifying “typical” sites or exposure scenarios that are being evaluated in the risk issue paper. The risk issue paper will be discussed at the next work group meeting.

- Site Categories: One of the questions posed to the work group was “Are the three site categories identified in the draft memorandum reasonable to frame the evaluation? If not, what changes would you recommend?” A wide range of opinions were expressed during the ensuing discussion:
 - Number of Categories: Several members expressed the opinion that the proposed categories were too broad and suggested that other categories or subcategories were needed to take into account the full range of site characteristics. While acknowledging the practical limitations associated with identifying a reasonable number of categories, one member noted that we may need to look at twenty five categories before narrowing the list to four or five. One person recommended creating a map of a hypothetical area and use the map to identify the various exposure situations that might exist in this area (e.g. grade schools, parks, etc). Several people recommended that a process be created which allowed decision-makers (e.g. schools, homeowners, companies, etc) to match an alternative to their situation. The asbestos abatement process was identified as one example of a process that allows decision-makers (school officials) to identify solutions for their particular school. One person suggested that the contractor identify risk factors that would be important when trying to tailor the solutions to site-specific conditions. As mentioned above, these additional factors have been considered when identifying typical sites or exposure scenarios that are being addressed in the risk issue paper.
 - Interim vs Long-Term Solutions: It was noted that consideration of various risk factors and site characteristics was more important when evaluating interim or short-term measures (relative to long-term measures). With interim measures, factors (such as the age of children playing in a particular area) are important considerations in deciding what measures to implement and how fast to implement those measures. However, such distinctions may not be as important when evaluating long-term solutions that must take into account both current and potential future conditions.
 - Audience: At several points in the discussion of site categories, participants suggested that we keep in mind who the end-users are and that the site categories selected should be created with those end users in mind.
 - Focus on Remedial Technologies: One person expressed the opinion that developing site categories first and then fitting "model remedies/remedial actions" to them is a backwards process -- since there are an infinite number of permutations to site types, and that any type of site can potentially have a variety of people using the site. In written comments provided after the meeting, it was suggested that a more practical/pragmatic approach would be to initially evaluate the eight remedial options

(plus institutional controls) in terms of protection, costs and technical feasibility. Situations where such options are potentially applicable would then be identified using the results of those evaluations.

Remedial Technologies

The third question posed to the work group was “Is an appropriate range of remedial alternatives identified in the draft memorandum? If not, what alternatives would you recommend being added to (or subtracted from) the list?” Kris Hendrickson provided an overview of the remedial technologies and the factors considered in selecting those technologies. Highlights of the ensuing discussion include:

- **Range of Alternatives:** There appeared to be general agreement that the draft memorandum included the full range of potentially viable remedial options. Work group members did not identify any additional measures be added to the list. However, one member urged the group to continue to take a broad view of alternatives and not exclude from consideration or evaluation those alternatives that might be implemented as an interim measure that is part of a longer term response.
- **Further Screening:** There appeared to be general agreement that soil washing (except for phosphate treatment of lead-contaminated soils) and chemical treatment (except for phosphate treatment of lead-contaminated soils) should be dropped from further consideration. Most members agreed that while these options may be useful when looking at areas with high levels of soil contamination, they were unlikely to be viable for addressing large areas with low-to-moderate soil contamination.
- **No Action Alternative:** Concerns were expressed on the proposal to include the “no action” alternative as a potential remedial technology. It was noted that a true “no action” alternative (minus institutional controls) was not acceptable under the Model Toxics Control Act. Bradley stated that the “no action” alternative was included to provide a baseline for evaluation under other programs (e.g. land use permitting). There appeared to be general agreement that it was appropriate to consider baseline conditions when evaluating various alternatives and that future documents should carefully distinguish the baseline condition from remedial alternatives.
- **Institutional Controls:** One member expressed concerns that the draft memorandum did not identify a full range of institutional control measures. In written comments, he recommended that the project consider the following range of institutional control measures:

Deed Covenants
Permit Overlay
Database and Web Page
Worker Protection Program
Small Quantity Soil Disposal Program
Large Project Soil Disposal and Management Program

Public Education Program
Exposure Testing Program
Environmental Investigations
Effectiveness Evaluation
Community Advisory Committee Program
Dispute Resolution Program
Contingency Plans
Financial Assurances

- Tilling/Soil Blending: It was noted that soil blending/tilling may not meet all of the MTCA remedy selection requirements. Specifically, WAC 173-340-360(2)(d) may preclude the use of this technology either alone or as part of a remedy for some types of sites.
- Depth of Contamination: Most of the technologies have been identified based on the assumption that contamination will be limited to the upper 1-2 foot depth interval. However, it was noted that elevated levels were routinely found at 3 feet at the Everett Smelter site and up to 6-8 feet at the Wenatchee Toyota site.
- Soils with lead from lead-based paint: It was noted that the areawide project was evaluating a wide range of potential sources of arsenic and lead contaminated soils (including lead-based paint). Some people appeared to be surprised that lead-based paint was included on this list. Including lead-based paint and other source not traditionally addressed by the cleanup program is based on two underlying premises that (1) exposure to contaminated soils should be reduced/eliminated independent of the contamination source and (2) decisions on how and how fast to address soil contamination resulting from particular sources (e.g. smelters, pesticide use) should not be made independently of soil contamination arising from other sources. However, the areawide project is not designed to duplicate other well-established programs (e.g. lead-based paint programs). Instead, the agencies hope to integrate approaches for addressing soil contamination issues arising from smelters, pesticide use etc should be integrated with existing programs so that when dealing with a particular property we are doing so in a holistic manner.
- Definition of Low-to-Moderate Contamination: The question of what level of contamination is considered low-to-moderate was briefly discussed in the context of various treatment technologies. Bradley stated that the term had been chosen to represent widespread contamination that extended beyond normal point source boundaries (in other words, it is intended to exclude waste piles, mixing areas, etc). Although this term has not been quantified, we have generally considered this to include levels ranging up to 10-20 times the Method A cleanup levels. This issue will be examined when the results of some of the data compilation tasks are completed.
- Cleanup Standard for Lead: The lead cleanup standard was briefly discussed. It was pointed out that a range of site-specific cleanup levels (250 – 500 ppm) have been established at Washington sites. As with the discussion on the definition of low-to-

moderate contamination, it was noted that the choice of cleanup standard may significantly impact the viability of various technologies. One member also noted that it will be important to clarify the relationship between the lead cleanup standard, any remediation levels and the EPA standard established for soils impacted by lead-based paint (e.g. 400 ppm for play areas and 1200 ppm for other parts of residential yards.).

- Equity: One participant expressed concerns that we require small sites to perform more stringent cleanups than larger sites based on cost considerations. Under CERCLA, the total cost of a cleanup is one factor explicitly considered when evaluating the implementability of particular cleanup options.

Evaluation of Alternatives

Kris Hendrickson provided an overview of the approach that will be used to evaluate the various protective measures alternatives. Several members requested that the Work Group be provided with an outline of the final report in order to gain a better understanding how the various evaluation tasks fit together and will be used in preparing a final product.

Information Survey

Kris Hendrickson provided an overview of the information survey and key findings that might be relevant to Work Group II discussions. The memo will be distributed to the Work Group in mid-May.

Next Scheduled Work Group 2 Meeting

The next Work Group II meeting will held on be June 24, 9:30 to 4:00, at the Ecology Northwest Region Office in Bellevue. The June 24th meeting will replace the meeting previously scheduled for June 6th (In other words, there will not be a work group meeting on June 6th.) A September meeting is also planned; a date will be identified at the next work group meeting.

Attendance

Work Group 2 Members

Carter Bagg, Office of Superintendent of Public Instruction
Hilary Karasz-Dominguez, Seattle-King County Dept. of Public Health
John Kissel, U.W. School of Public Health
Kevin Rochlin, US EPA
Ty Schreiner, Kennedy/Jenks Consultants
Joyce Tsuji, Exponent

Consultant Support

Kris Hendrickson, Landau Associates

Agency Staff

Dave Bradley, Ecology (Olympia)
Michael Feldcamp, Ecology (Olympia)
Norm Hepner, Ecology (Yakima)
Dawn Hooper, Ecology(Olympia)
David South, Ecology (Bellevue)
Steve Thiele, Office of Attorney-General
Jim W. White, Department of Health